



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/598,456

08/31/2006

Rudolf Berger

72.109

5693

23598 7590 08/08/2008  
BOYLE FREDRICKSON S.C.  
840 North Plankinton Avenue  
MILWAUKEE, WI 53203

EXAMINER

YABUT, DANIEL D

ART UNIT

PAPER NUMBER

4114

NOTIFICATION DATE

DELIVERY MODE

08/08/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,456	<b>Applicant(s)</b> BERGER ET AL.	
	<b>Examiner</b> DANIEL YABUT	<b>Art Unit</b> 4114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/31/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "minimal" to describe an axial distance in line 3 of the claim. To what degree of distance does the term "minimal" define? The examiner will assume that two objects that are adjacent to one another qualify as having "minimal" distance therebetween.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-9 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Cureton et al., US Patent 4,688,439. Cureton et al. discloses a wobble drive (see at least Fig. 1) comprising a(n):

*Re claim 1*

Art Unit: 4114

- Pivot bearing (at 24) that is situated on a shaft (12) and that is inclined in relation to an axis of rotation of the shaft (see pivot bearing inclined in at least Figure 1)
- Wobble finger (32) that extends away from the axis of rotation of the shaft (12) and is held by the pivot bearing wherein at least one balance mass (142) is fashioned on the shaft (12)

*Re claim 2*

- Balance mass (142) is situated on the shaft in such a way that it counteracts the imbalance resulting from the design of the wobble drive (see column 9 lines 65-68)

*Re claim 3*

- Pivot bearing (at 24) has an inner ring (24) fashioned on the shaft (12) having an annular inner running surface (see annular inner running surface near 60) for roller elements (30) the inner running surface being situated in a plane that does not stand perpendicular to the axis of rotation of the shaft (see in at least Fig. 1)
- Wobble ring (28) situated around the inner ring (near 60) is allocated to the pivot bearing (at 24), said wobble ring (28) having an outer running surface (see outer running surface near 30) for the roller elements (30) that is allocated to the inner running surface and in that the wobble finger (32) extends from the wobbling ring radially to a center axis of the wobble ring (see column 5, lines 61-64)

*Re claim 5*

- Shaft is mounted at at least two bearing points (14, 20)
- Balance mass is allocated to at least one of the bearing points (142)

*Re claim 6*

- Shaft is mounted at two bearing points (14, 20)
- Balance mass is allocated to each of the bearing points (138, 136)

In regards to claim 7, it is inherent that the axial distances between a bearing points and the balance masses allocated thereto are minimal because the balance masses are directly adjacent to the bearing points (see minimal axial distance between masses and bearings in Figure 1).

*Re claim 8*

- Balance masses allocated to the two bearing points are situated opposite one another in relation to the axis of rotation of the shaft (see column 9, lines 59-60)

*Re claim 9*

- Wobble ring is essentially rotationally symmetrical with the exception of the area from which the wobble finger extends (see column 4, line 16)

*Re claim 18*

- Balance mass is formed from a plurality of balance elements (138, 136).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cureton et al, US Patent 4,688,439. Cureton et al. discloses all of the claim limitations (see 102 rejection above) except the balance mass being capable of being manufactured by removing material from the shaft.

However, Cureton et al. teaches the possibility of creating a balancing couple without the use of additional weights and suggests that an appropriate component could be manufactured to have symmetrical and sufficiently large dimensions that can produce an opposing couple of sufficient magnitude for the purpose of space optimization (see column 4, lines 51-56). In view of this notion particularly, it would have been obvious to one having ordinary skill in the art at the time of the invention for the balance mass to be capable of being manufactured by removing material from the shaft.

7. Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cureton et al., US Patent 4,688,439, in view of Takao et al., US Patent 5,063,829.

Cureton et al. discloses claim limitations regarding claims 10, 11 and 15 that can be seen in the 102 rejection above (rejections to claims 1, 3, and 9, respectively).

As to claim 16, Cureton et al. teaches the possibility of creating a balancing couple without the use of additional weights and suggests that an appropriate component could be manufactured to have symmetrical and sufficiently large dimensions that can produce an opposing couple of sufficient magnitude for the purpose of space optimization (see column 4, lines 51-56). In view of this notion particularly, it would have been obvious to one having ordinary skill in the art at the time of the invention for the balance mass to be capable of being manufactured by removing material from the wobbling ring (28).

However, Cureton et al. does not disclose:

*Re claims 10 and 17*

- On the wobble ring, at least one balance mass is provided in an area neither at the linkage point nor opposite the linkage point, in relation to the center axis of the wobble ring

*Re claim 12*

- Two balance masses being provided that are situated opposite one another on the wobble ring, in relation to the center axis of the wobble ring

*Re claim 13*

- Two balance masses are provided, and wherein the linkage point stands at the same angular distance to the two balance masses, in relation to the center axis of the wobble ring

*Re claim 14*

- One balance mass being situated in an area of the wobble ring that is offset by +90 degrees relative to the linkage point of the wobble finger, in relation to the center axis of the wobble ring
- Other balance mass is situated in an area of the wobble ring that is offset by -90 degrees relative to the linkage point of the wobble finger, in relation to the center axis of the wobble ring

As to claim 10 and 17, Takao et al. teaches the use of a wobble ring (14; see at least Fig. 26) at least one balance mass (146) is provided in an area neither at the linkage point (141) nor opposite the linkage point (141), in relation to the center axis of the wobble ring to reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

Regarding claims 10 and 17, it would have been obvious to one having ordinary skill at the time of the invention to provide at least one balance mass in an area neither at the linkage point nor opposite the linkage point, in relation to the center axis of the wobble ring, as taught by Takao et al., in the device of Cureton et al. to reduce the unbalance of the centrifugal force.

As to claim 12, Takao et al. teaches the use of two balance masses (146) being provided and are situated opposite one another on the wobble ring (14), in relation to the center axis of the wobble ring, for the purpose of distributing the masses as to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.



Regarding claim 12, it would have been obvious to one having ordinary skill at the time of the invention to provided two balance masses that are situated opposite one another on a wobbling ring, in relation to the center axis of the wobble ring, as taught by Takao, in the device of Cureton et al. to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

As to claim 13, Takao et al. teaches the use of two balance masses (146), wherein the linkage point (14) stands at the same angular distance to the two balance masses, in relation to the center axis of the wobbling ring to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

Regarding claim 13, it would have been obvious to one having ordinary skill at the time of the invention to provide two balance masses wherein the linkage point stands at the same angular distance to the two balance masses, in relation to the center axis of the wobbling ring, as taught by Takao et al., in the device of Cureton et al. to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

As to claim 14, Takao et al. teaches the use of one balance mass being situated in an area of the wobble ring that is offset by +90 degrees relative to the linkage point (14) of the wobble finger (see balance mass 146 on the right hand side) and another balance mass is situated in an area of the wobble ring that is offset by -90 degrees relative to the linkage point of the wobble finger (see balance mass 146 on the left hand side), both in relation to the center axis of the wobble ring to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

Regarding claim 14, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide one balance mass being situated in an area of the wobble ring that is offset by +90 degrees relative to the linkage point of the wobble finger and another balance mass is situated in an area of the wobble ring that is offset by -90 degrees relative to the linkage point of the wobble finger, both in relation to the center axis of the wobble ring, as taught by Takao et al., in the device of Cureton et al. to effectively reduce the unbalance of the centrifugal force that can cause unwanted vibrations and noise.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL YABUT whose telephone number is (571)270-5526. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen can be reached on (571)272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4114

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Q. Nguyen/  
Supervisory Patent Examiner, Art Unit 4114

/DANIEL YABUT/  
Examiner, Art Unit 4114  
8/1/2008